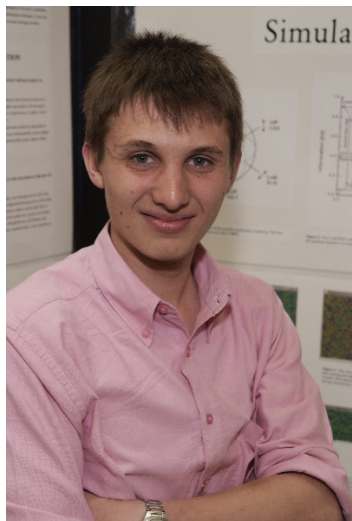


CWSF 2007 - Truro, Nova Scotia



William-Henri Sellier

Quantum Key Distribution Simulator

Division: International / None

Category: Senior

Region: Toronto

City: Toronto, ON

School: Northern S.S.

Abstract: Quantum Key Distribution (QKD) is a method to securely transfer information by sending photons over a "quantum channel" ? an application of Quantum Mechanics. This simulator facilitates the development of QKD schemes and the testing of parameters for physical apparatuses by being able to simulate all possible QKD schemes and the effect of errors due to either interception or physical limitation.

Biography

Currently a grade 12 student at Northern Secondary School in Toronto, I will be going to the University of Waterloo next year. I have been interested in cryptography since grade 2 and ever since it has been one of my passions. More generally, I am very interested in mathematics and sciences, be it chemistry, biology or physics. I hope to become a professor with a research position relating to mathematical physics. I also have strong interests in many unrelated fields such as canoeing (both tripping and whitewater), photography and music. Canoeing has opened a new door to the wilderness and has greatly boosted my interest for the Canadian landscape and its preservation. This summer, I will be doing a 5 week canoe trip in Labrador. The wilderness has also gotten me interested in medical and rescue training.

Awards

Value

Honourable Mention - Physical & Mathematical Sciences - Senior	\$100
Sponsor: Encana Corporation	
Total	\$100